

**PATCHED GENES AND THEIR USE**

**ABSTRACT OF THE INVENTION**

- Invertebrate and vertebrate *patched* genes are provided, as well as methods
- 5 for isolation of related genes, where the genes may be of different species or in the same family. Having the ability to regulate the expression of the *patched* gene, allows for the elucidation of embryonic development, cellular regulation associated with signal transduction by the *patched* gene, the identification of agonist and antagonist to signal transduction, identification of ligands for binding to *patched*,
  - 10 isolation of the ligands, and assaying for levels of transcription and expression of the *patched* gene.